

<b>Brookhaven National Laboratory</b> <b>National Synchrotron Light Source</b>		<b>Number:</b> LS-PPS-0017	<b>Revision:</b> A
		<b>Effective:</b> 4/16/02	<b>Page 1 of 3</b>
<b>Subject: <u>X1A</u> Radiological Interlock Test</b>			
<b>Prepared/</b> M. Buckley	<b>Approved By:</b> S.Buda	<a href="#">Revision/Periodic Review Log</a>	

\*Approval signatures on file with master copy.

Test Reason:	Test Result: <input type="checkbox"/> Passed <input type="checkbox"/> Failed	
	Test Type: <input type="checkbox"/> Full <input type="checkbox"/> Partial	
Test Date:	Start Time:	Finish Time:
Tester 1:	Assistant 1:	
Tester 2:	Assistant 2:	

#### PREPARATION:

Inform control room operator that test will be done. \_\_\_\_\_

Turn off 'Red Tag' switch on x-ray ring interlock, and apply LOTO to X-Ray Security system. \_\_\_\_\_

Verify that vacuum valves and water interlocks are satisfied on the beam line or request beamline contact to bypass user PLC interlock. \_\_\_\_\_

1. Leave shutters closed.

Beamline lockout key cannot be removed from  
SRU unless button is pushed \_\_\_\_\_

2. Open safety shutter.

Beamline lockout key cannot be removed even if  
button is pushed \_\_\_\_\_

3. Close shutter. Turn KKH and note where solenoid unit stops rotation. Push the button and turn key just beyond this point, but not far enough to actuate "key removed" switch. Release the button and leave key in this position. Open safety shutter, remove KKH, and replace.

RIA latch light comes on \_\_\_\_\_

RIB latch light comes on \_\_\_\_\_

The safety shutter closes \_\_\_\_\_

RIA cannot be reset without SOR \_\_\_\_\_

RIB cannot be reset without SOR \_\_\_\_\_

SPA comes on \_\_\_\_\_

SPA can't be reset w/o SOR \_\_\_\_\_

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4. Open safety shutter. Switch the Lockout switch to "Lockout" position and then back to "Enable" position.

RIA latch light comes on \_\_\_\_\_  
The safety shutter closes \_\_\_\_\_  
RIA cannot be reset without SOR \_\_\_\_\_  
SPA comes on \_\_\_\_\_  
SPA can't be reset w/o SOR \_\_\_\_\_

5. Open the safety shutter. Remove the Control Room Shutter Enable Key for this beam line, then replace the key.

The safety shutter closes \_\_\_\_\_  
RIA latch light comes on \_\_\_\_\_  
The "Control Room Shutter Enable" light goes out \_\_\_\_\_  
The SPA latch comes on (after the key is back on) \_\_\_\_\_  
The safety shutter cannot be opened \_\_\_\_\_

Reset RIA and SPA

6. Open the Safety Shutter.  
Turn "Auto Open" key to "ON" (if key switch is installed on beamline).  
At the Control Room Operator's Console, switch the shutter master enable to "Inhibit" and back to "Enable"

The safety shutter closes \_\_\_\_\_  
And then re-opens \_\_\_\_\_

Turn "Auto Open" key to "OFF" - Disregard this step if key switch is not installed.  
Switch the master enable to "Inhibit" and back to "Enable"

The safety shutter closes \_\_\_\_\_  
And does NOT re-open \_\_\_\_\_

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7. One person goes to the x-ray equipment area and resets the indicators for RIAX and RIBX at SR100.  
 Cheat the beam line lockout key.  
 Open the safety shutter.  
 Remove the key and then replace it.

RIB latch light comes on \_\_\_\_\_  
 RIBX "Loop Enabled" indicator goes out \_\_\_\_\_  
 RIBX "Loop Disabled" indicator comes on \_\_\_\_\_  
 RIBX cannot be reset \_\_\_\_\_

RIA latch light comes on \_\_\_\_\_  
 RIAX "Loop Enabled" indicator goes out \_\_\_\_\_  
 RIAX "Loop Disabled" indicator comes on \_\_\_\_\_  
 RIAX cannot be reset \_\_\_\_\_

The safety shutter closes \_\_\_\_\_

Reset RIB

RIBX CAN be reset  
 ("Loop Enabled" indicator comes on) \_\_\_\_\_

Reset RIA

RIAX CAN be reset  
 ("Loop Enabled" indicator comes on) \_\_\_\_\_

8. Locate the safety shutter associated with the beam line by tracing the beam pipe through the shield wall. Do not rely on labels on the shutter mechanism. Open and close the shutter two times.

The correct shutter opens \_\_\_\_\_  
 No other shutter at that saw tooth opens or attempts to open \_\_\_\_\_  
 The mechanism moves freely and without hesitation \_\_\_\_\_

9. Inform beamline contact that test is completed and to return beamline user interlock to normal (if applicable). \_\_\_\_\_

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